Lab Assignment

Introduction to Python for Security

Data Types & Conditions

PY-02-L3
Advanced Conditions

Lab Objective

Understand how to write code with advanced conditions and basic error handling.

Lab Mission

Practice using advanced conditions and handling out-of-range values.

Lab Duration

10–20 minutes

Requirements

- Working knowledge of PyCharm projects and creating new Python files.
- Working knowledge of how to handle inputs.
- Working knowledge of variables and if-else statements.

Resources

- Environment & Tools
    - Windows, Linux, macOS
        - Python 3
        - PyCharm

📖 Textbook References

- Chapter 2: Data Types & Conditions
    - Section 1: Variables and User Output
    - Section 2: Operators and Casting
    - Section 3: Conditions

Lab Task

Write code that asks the user to provide a score for an exam as input and checks what grade the score is associated with. (Example: a score higher than 90 is an A.)

Remember: Before you start, you need to create a new Python file in an existing or newly created project.

1 Request the user to input a grade and assign it to a variable named **grade**.

```python
grade = input("Enter a grade: ")
```

2 Convert the variable **grade** into an integer.
Note: Add the command ***int()*** to the code line from step 1.

```python
grade = int(input("Enter your grade: "))
```

3 Create a condition that checks if the grade is equal to or higher than 90 and if so, print **A**.

```python
if grade >= 90:
  print("A")
```

4 Continue the condition to check if the grade is equal to or higher than 80, and if so, print **B**.

```python
elif grade >= 80:
  print("B")
```

5 Continue the condition to check if the grade is equal to or higher than 70, and if so, print **C**.

```python
elif grade >= 70:
  print("C")
```

6 Continue the condition to check if the grade is equal to or higher than 65, and if so, print **D**.

```
elif grade >= 65:
  print("D")
```

7 Continue the condition to check if the grade is equal to or higher than 0, and if so, print **F**.

```
elif grade >= 0:
  print("F")
```

8 Finally, the code should print an error message if the user inserted an invalid number, such as a negative number.

```
else:
  print("ERROR: Grades cannot be negative numbers or
words.")
```

9 The final result is shown below.

```
grade = int(input("Enter your grade: "))
if grade >=90:
    print("A")
elif grade >=80:
    print("B")
elif grade >=70:
    print("C")
elif grade >=65:
    print("D")
elif grade >=0:
    print("F")
else:
    print("ERROR: Grades cannot be negative numbers or
words.")
```